Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	WC Docket No. 10-90
Connect America Fund	)	

COMMENTS OF ALASKA COMMUNICATIONS

Alaska Communications[1] hereby submits these comments in response to the Public Notice seeking comment on broadband performance measures for certain recipients of Connect America Fund ("CAF") high-cost support in the above-captioned proceeding.[2] As the sole price cap company serving the state of Alaska, Alaska Communications potentially would be subject to the proposed performance measures. Alaska Communications urges the Commission to include sufficient flexibility in its CAF broadband performance measurement and reporting requirements so that implementation in Alaska will be feasible and not unduly economically burdensome.

CAF-Supported Broadband Performance Obligations

Current FCC rules require all CAF recipients, in the supported portions of their service area, to offer broadband service that meets certain basic performance requirements, including broadband transmission speed, latency, network capacity (usage allowance) and price of service,

---

1 In these comments, "Alaska Communications" represents the four incumbent local exchange carrier ("ILEC") subsidiaries of Alaska Communications Systems Group, Inc.: ACS of Alaska, LLC, ACS of Anchorage, LLC, ACS of Fairbanks, LLC, and ACS of the Northland, LLC.

2 Public Notice, *Comment Sought on Performance Measures for Connect America High-Cost Universal Service Support Recipients,* WC Docket No. 10-90, DA 17-1085 (WCB rel. Nov. 6, 2017) (seeking "to update the record regarding performance measures for certain Connect America high-cost universal service support recipients, including price cap carriers, rate-of-return carriers, rural broadband experiment (RBE) support recipients, and Connect America Phase II auction winners") (the "Notice").

and to report regularly on associated performance measures.[3] The CAF obligations specifically require conducting performance tests for speed and latency, and annually reporting the results pursuant to the methodology and in the format determined by the Wireline Competition Bureau, Wireless Telecommunications Bureau, and Office of Engineering and Technology.[4] Final rules have not yet been adopted.

In 2013 the Wireline Competition Bureau further defined the latency obligation applicable to price cap carriers that voluntarily accepted model-based CAF Phase II support through state-level commitments,[5] with detailed measurement requirements for those carriers, including "mouth-to-ear latency of 200 ms or less" and "a 100 ms provider latency round-trip limit."[6] The Bureau stated, "To show that it is meeting this standard, a price cap carrier accepting model-based support will need to certify that 95 percent or more of all peak period measurements (also referred to as observations) of network round trip latency are at or below 100 ms."[7] Such measurements could be made using "existing network management systems, ping tests, or other commonly available network measurement tools."[8] Alternatively, carriers participating in the Measuring Broadband America ("MBA") program may use the results from

---

3 *Connect America Fund, et al.,* 26 FCC Rcd 17663, 17705-06 (2011).

4 47 C.F.R. §54.313(a)(11).

5 *Connect America Fund,* Report and Order, WC Docket No. 10-90, 28 FCC Rcd 15060 (WCB 2013) ("*CAF Phase II Price Cap Service Obligation Order"*).

6 *See id.* ¶¶20-22.

7 *Id.* ¶23.

8 *Id.* ¶24.

that testing to support their certification that they meet the latency requirement, so long as they deploy at least 50 "white boxes" to customers within the Phase II funded areas in a state.[9]

In December 2014, the minimum broadband speeds for all CAF recipients were established at 10 Mbps downstream, 1 Mbps upstream.[10] In October 2016 the FCC adopted substantive CAF Phase II performance obligations for Alaska Communications. These obligations included minimum broadband speeds of 10/1 Mbps and latency not to exceed 100 ms – the same standard adopted for price cap carriers electing model-based support.[11]

Measuring & Reporting Broadband Speed & Latency

In April 2014, initial comments were sought on a methodology to measure and report CAF-supported broadband network performance. The Commission decided that price cap carriers must annually certify that 95 percent or more of all peak period measurements of network round-trip latency are at or below 100 ms.[12] The FCC made this standard applicable to Alaska Communications just as for other price cap CAF recipients.[13] Importantly, however, the Commission made certain concessions for Alaska's unique geography, for example, ruling that Alaska Communications "should conduct its latency network testing from the customer location to a point at which traffic is consolidated for transport to an Internet exchange point in the

---

9 *Id.* ¶25.

10 *Connect America Fund,* Report and Order, 29 FCC Rcd 15644, 15648 (2014)

11 *Connect America Fund,* Order, 31 FCC Rcd 12086, ¶¶9, 12 (2016) ("*Alaska Communications CAF II Order*").

12 Report & Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051, 7117-21 (2014) ("*April 2014 CAF NPRM*").

13 *Alaska Communications CAF II Order* ¶14.

continental United States" (there being no such point in Alaska).[14] The Commission also sought comment generally as to whether non-contiguous carriers would need any flexibility to meet the broadband performance standards applicable to price cap companies.[15] The Bureaus jointly sought comment on the specifics of measuring CAF recipients' compliance with broadband transmission speed and latency performance obligations.[16]

The Notice seeks to refresh the record on CAF performance speed and latency measurement in light of technology developments in the last three years, and seeks comment on the merit of adopting identical testing methods and parameters for "all high-cost recipients of support to serve fixed locations," or whether different testing methods and parameters are warranted.[17] The Notice seeks comment on specific testing parameters proposed by US Telecom, including testing during an 18-hour period rather than at peak times.[18]

Flexibility Is Warranted For Broadband Deployed In Alaska

As the Commission has acknowledged, technology used to deliver fixed broadband service in previously unserved areas, as well as to monitor its performance characteristics, is rapidly evolving. Price cap carriers deploying 10/1 Mbps have a greater choice of technologies today than when the performance requirements first were adopted, and some of these

---

[14] *Id.* This ruling is consistent with paragraph 35 of the *CAF Phase II Price Cap Service Obligation Order.*

[15] *April 2014 CAF NPRM, supra*.

[16] Public Notice, *Wireline Competition Bureau, Wireless Telecommunications Bureau, and the Office of Engineering and Technology Seek Comment on Proposed Methodology for Connect America High-Cost Universal Service Support Recipients to Measure and Report Speed and Latency Performance to Fixed Locations*, 29 FCC Rcd 12623 (WCB 2014).

[17] Notice ¶6.

[18] Notice ¶¶8-10.

technologies merit further consideration in adopting performance testing and reporting criteria. Alaska Communications believes the proposed performance measurement methods are oriented toward wireline-based broadband deployment in several respects, overlooking the plans of carriers such as Alaska Communications to incorporate state-of-the-art *wireless* technology in their fixed broadband networks. In addition, some of the proposed methods appear to be counter-productive, or at least unsuitable for Alaska. Therefore, Alaska Communications urges the Commission to adopt the specific changes discussed below and permit greater flexibility in its CAF-related performance measurement and reporting requirements.

Advanced Modeling of Network Speeds In Alaska

Fixed wireless technology represents a potential solution for affordable broadband deployment in many parts of rural Alaska, yet the Commission's proposed rules do not appear to provide for an appropriate testing option for radiofrequency-based ("RF") networks. For example, sophisticated software is available today to provide detailed broadband coverage analysis for RF-based networks. The Commission should accept the RF propagation maps generated by the software-based network engineering tools employed by CAF recipients, as proof of broadband transmission speeds meeting the 10/1 Mbps minimum requirements (or such requirements as the Commission may adopt in the future) in particular geographic areas. These maps are generated based on detailed terrain data and advanced modeling, showing effective bandwidth (transmission speeds) across the footprint served by the CAF recipient. Alaska Communications proposes that the Commission require such maps to be filed no more than once per year throughout the term of CAF support. Combined with annual broadband deployment

certifications already required under the CAF rules,[19] annual filing of updated RF propagation maps will be sufficient to demonstrate that CAF recipients have deployed and are maintaining networks capable of delivering the required high-speed broadband services that CAF is intended to support, in accordance with the FCC's rules.

Advanced Latency Measurement In Alaska

Alaska Communications supports flexibility in the rules to permit advanced latency testing methods, such as automated measurement of latency at a representative percentage of subscriber locations at defined intervals, and opposes a rigid requirement to test a defined number of customer locations exclusively at peak periods.

First, the Commission should not require latency testing solely at peak usage hours. Testing exclusively at peak hours, especially in the types of very rural areas where Alaska Communications will be deploying CAF-supported broadband, is known to actually skew the results, and even can interfere with the user's broadband experience. This can be even more of a problem on bandwidth-constrained networks, such as those relying on microwave backhaul. Moreover, manual testing at peak hours is likely to result in errors and unnecessary costs. Instead, the Commission should permit CAF recipients to employ scheduled, automated testing (such as every six hours for 18 hours, as suggested by US Telecom). These tests could be performed in the same time frame each year, to provide a representative snapshot under actual usage conditions, year over year. However, Alaska Communications asks that the Commission give carriers the discretion to select the appropriate period in which to measure latency; this decision should be permitted to be made by the service provider based on factors that are known

[19] 47 C.F.R. §54.316.

to the service provider and specific to the CAF territory and customers being served, including the potential impact of testing on users, as well as extreme variations in usage during different seasons of the year (especially important in Alaska, where usage fluctuates substantially in high tourist seasons and due to extreme changes in weather). As long as the CAF recipient implements a reasonable and consistent methodology, this type of automated, rolling testing based on local conditions would avoid the problems of peak-period-only testing that artificially produce poor performance results, and more accurately capture the user experience over time.

Second, latency testing should not be prescribed for a specific number of customers (such as 50) in a geographic area, because Alaska Communications will be deploying CAF-supported broadband in some very rural locations, where such a number may represent a large percentage of the total locations available (and may even represent more locations than actually subscribe to the broadband service). Instead, the Commission should adopt a proportionate testing rule, requiring testing of a representative sample of customer locations (such as one percent, or ten out of every one-thousand locations). Such a rule would provide the Commission with adequate performance feedback while avoiding unduly burdening carriers or their networks.

Third, latency testing can be done at the CPE (customer modem) location, but it cannot be done where there is no customer. Therefore, it should be required only at locations where the CAF recipient has an actual subscriber. Put another way, locations where broadband is deployed should be exempt from latency testing *until* a subscriber begins receiving service.[20]

[20] The Broadband Forum has developed widely accepted industry standards (such as TR-143) for measuring broadband performance at the customer premises (using "Smart RG" modems).

Fourth, the Commission should continue to craft its rules in light of its decision that non-contiguous carriers such as Alaska Communications should conduct their latency network testing between the customer location and "a point at which traffic is consolidated for transport to an Internet exchange point in the continental United States,"[21] such as at an undersea cable landing station. There is no Internet access or exchange point in Alaska, so a round-trip latency measurement must be limited to transmission within the state borders in order to be meaningful.

Fifth, the requirement that 95 percent or more of all measurements of network round-trip latency be at or below the 100 ms limit may be inappropriate for Alaska, particularly in areas where broadband is deployed in whole or in part using fixed wireless technology, which typically has more variability than fiber-based networks. Alaska Communications respectfully requests that this rule be modified to 90 percent for Alaska CAF recipients.

Finally, the Bureau seeks comment on whether USAC should provide server capacity for performance testing for CAF-supported services.[22] Alaska Communications respectfully opposes installing USAC in this role. USAC is the administrator of the Commission's high-cost support programs; as such, it has responsibility for auditing user compliance with the rules of each program. Involving USAC in a compliance function that is the responsibility of service providers would create a conflict of interest for USAC, and potentially could distort the regulatory environment among competing service providers. This is an inappropriate function for an entity that will play a role in enforcement of FCC rules.

---

[21] *Alaska Communications CAF II Order* ¶14, citing *CAF Phase II Price Cap Service Obligation Order,* 28 FCC Rcd at 15075.

[22] Notice ¶ 12.

Conclusion

For the foregoing reasons, the CAF speed and latency testing and reporting obligations should be made sufficiently flexible to reflect the practical business and technological realities of deploying high-speed networks in rural Alaska, as highlighted above.

Respectfully submitted,

Leonard A. Steinberg
Senior Vice President & General Counsel
ALASKA COMMUNICATIONS
600 Telephone Avenue
Anchorage, Alaska 99503

Karen Brinkmann
Managing Member
KAREN BRINKMANN PLLC
1800 M Street, N.W., Suite 800-North
Washington, D.C. 20036
(202) 365-0325
KB@KarenBrinkmann.com

Counsel for Alaska Communications

December 6, 2017